

**ASSESSMENT OF STRESS AND ANXIETY LEVELS AMONG
WOMEN WITH HIGH-RISK PREGNANCIES ADMITTED TO
ANTENATAL WARDS: A CROSS-SECTIONAL STUDY**

Smt. Kumari Ekka

Principal Tutor, ANM training centre, sambalpur, odisha, India

ABSTRACT

Background: High-risk pregnancies complicate approximately 10–20% of all gestations and expose women to substantial psychological distress. Antenatal hospitalization, though clinically necessary, removes women from their familiar environment and intensifies uncertainty, fear of fetal compromise, and loss of control. Despite growing recognition of perinatal mental health as a public health priority, routine psychological screening of hospitalized high-risk pregnant women remains inconsistent.

Objective: To assess the prevalence and correlates of stress and anxiety among women with high-risk pregnancies admitted to antenatal wards of a tertiary care hospital.

Methods: A hospital-based cross-sectional study was conducted among 186 women admitted to the antenatal ward with a high-risk pregnancy diagnosis. Data were collected using the Perceived Stress Scale (PSS-10) and the Hospital Anxiety and Depression Scale–Anxiety subscale (HADS-A), alongside a structured sociodemographic and clinical proforma. Descriptive statistics, chi-square tests, and multivariable logistic regression were used for analysis ($\alpha = 0.05$).

Results: The mean age of participants was 27.4 ± 5.1 years; 41.4% were primigravida and 58.6% multigravida. Moderate-to-high perceived stress was observed in 62.4% of women, and clinically significant anxiety ($\text{HADS-A} \geq 8$) in 48.4%. Higher stress levels were significantly associated with gestational age < 28 weeks ($p = 0.032$), length of hospital stay > 7 days ($p = 0.004$), absence of spousal support ($p = 0.018$), and a history of previous pregnancy loss ($p = 0.026$). On multivariable analysis, prolonged hospitalization (aOR 2.41, 95% CI 1.32–4.39) and previous pregnancy loss (aOR 1.89, 95% CI 1.02–3.51) remained independent predictors of high stress.

Conclusion: Stress and anxiety are highly prevalent among hospitalized women with high-risk pregnancies. Routine psychological screening, structured psychosocial support, and integrated mental health referral pathways should be embedded within antenatal ward care.

Keywords: High-risk pregnancy; antenatal anxiety; perceived stress; hospitalization; perinatal mental health

1. INTRODUCTION

Pregnancy is physiologically and psychologically transformative; when complications arise that classify a pregnancy as high-risk, the psychological burden is amplified substantially. A high-risk pregnancy is defined as one in which the mother, fetus, or neonate is at increased risk of adverse outcome owing to maternal medical conditions, obstetric complications, or fetal pathology. Globally, an estimated 10–20% of pregnancies are complicated by conditions such as hypertensive disorders, gestational diabetes, placenta previa, multiple gestation, or

threatened preterm labour, necessitating enhanced surveillance and, frequently, inpatient admission. The label of "high-risk" itself has been shown to generate psychological distress independent of clinical severity, disrupting the woman's self-narrative and amplifying threat perception.

Hospitalization for pregnancy complications, although clinically justified, constitutes a major psychosocial stressor. Women are removed from their domestic roles, separated from children and partners, and confronted with an unfamiliar, technology-dense environment. Qualitative evidence indicates that hospitalized high-risk pregnant women experience shock at admission, loneliness, self-blame for the burden imposed on family members, and profound uncertainty regarding fetal survival. Uncertainty regarding the diagnosis, prognosis, and timing of delivery has been formally characterized as a distinct stressor in this population, leading to the development of disease-specific instruments such as the Uncertainty Stress Scale for High-Risk Pregnancy.

The epidemiological magnitude of the problem is considerable. A pooled analysis reported that the prevalence of clinically diagnosed anxiety disorders antenatally is approximately 15.2%, rising to 20.7% across the perinatal period; self-reported anxiety symptoms in low- and middle-income countries reach 29.2%. Among women hospitalized specifically for obstetric complications, the prevalence of antenatal depression has been reported as high as 19%, and anxiety symptoms are more prevalent still. In a Brazilian study of 100 hospitalized high-risk pregnant women, 68% exhibited moderate-to-high anxiety on the Beck Anxiety Inventory, with gestational trimester, history of abortion, and length of hospital stay identified as significant risk factors. Similarly, a study conducted in primary health centres in Saudi Arabia found that 27.2% of antenatal women had moderate stress and 4% high stress, while 32.9% had moderate anxiety.

The mechanisms linking psychological distress to adverse pregnancy outcomes are increasingly well understood. Maternal stress activates the hypothalamic–pituitary–adrenal axis, elevating cortisol and catecholamine levels, which in turn influence uterine blood flow, placental function, and fetal neurodevelopment. Chronic anxiety has been associated with altered immune regulation and inflammatory pathways that may contribute to the pathogenesis of preterm labour and preeclampsia. These biological pathways provide a compelling rationale for early identification and management of psychological distress as a component of obstetric risk reduction.

The consequences of unmanaged antenatal stress and anxiety extend beyond maternal suffering. Maternal psychological distress during pregnancy is associated with preterm delivery, low birth weight, intrauterine growth restriction, impaired maternal–fetal attachment, and postpartum depression. Despite this, mental health screening is not yet systematically integrated into the care of hospitalized antenatal patients in many settings, particularly in low- and middle-income countries where the dual burden of obstetric risk and psychological vulnerability is greatest.

Despite the accumulating evidence, significant gaps remain in the literature. Most studies of antenatal anxiety and stress have been conducted in community or primary care settings, with relatively few focusing specifically on hospitalized high-risk populations. Furthermore, the

instruments used vary widely from general measures such as the PSS and HADS to pregnancy-specific tools such as the Pregnancy-Related Anxiety Questionnaire and the more recently developed Uncertainty Stress Scale for High-Risk Pregnancy complicating cross-study comparison. There is a particular paucity of data from South Asian settings, where cultural factors, family structures, and health system constraints may shape the experience and expression of psychological distress in ways that differ from Western populations. Against this background, the present study was undertaken to assess the levels of stress and anxiety among women with high-risk pregnancies admitted to the antenatal wards of a tertiary care hospital, and to identify the sociodemographic and clinical factors associated with elevated psychological distress. The findings are intended to inform the development of targeted screening and support protocols within antenatal ward settings.

2. MATERIALS AND METHODS

2.1 Study Design and Setting

A hospital-based cross-sectional study was conducted over a six-month period (January–June 2025) in the antenatal wards of the Department of Obstetrics and Gynaecology of a tertiary care teaching hospital. The wards admit women with pregnancy complications requiring inpatient management, including hypertensive disorders of pregnancy, gestational diabetes with poor glycaemic control, threatened preterm labour, antepartum haemorrhage, multiple gestation with complications, and severe hyperemesis gravidarum.

2.2 Study Population and Sampling

The study population comprised all women admitted to the antenatal ward with a documented high-risk pregnancy diagnosis. Assuming a 50% prevalence of psychological distress (to maximize sample size in the absence of local data), a 95% confidence level, and a 5% margin of error, the minimum required sample was 384; however, accounting for the finite inpatient population and an anticipated 10% non-response, a consecutive sampling strategy was employed until 186 eligible participants were enrolled. Women aged ≥ 18 years, admitted for ≥ 24 hours, and able to comprehend the study instruments were included. Women with a pre-existing psychiatric diagnosis on treatment, those unable to communicate in the local language, and those with severe obstetric emergencies precluding interview were excluded.

2.3 Data Collection Instruments

Data were collected through a three-part structured proforma. Part A captured sociodemographic variables (age, education, occupation, marital status, family income, residence). Part B captured obstetric and clinical variables (gravidity, parity, gestational age, indication for admission, length of hospital stay, history of previous pregnancy loss, and planned versus unplanned pregnancy). Part C comprised two validated psychometric instruments: (i) the Perceived Stress Scale (PSS-10), a 10-item measure of global perceived stress scored 0–40, with scores of 0–13, 14–26, and 27–40 classified as low, moderate, and high stress respectively; and (ii) the Hospital Anxiety and Depression Scale–Anxiety subscale (HADS-A), a 7-item measure scored 0–21, with scores ≥ 8 indicating probable clinically significant anxiety. Both instruments have been validated in antenatal populations and are recommended for screening in perinatal settings.

2.4 Ethical Considerations

The study protocol was approved by the Institutional Ethics Committee. Written informed consent was obtained from all participants. Participation was voluntary, and women identified with severe distress were referred to the hospital's mental health services. All procedures were conducted in accordance with the Declaration of Helsinki.

2.5 Statistical Analysis

Data were entered into SPSS version 26.0 (IBM Corp., Armonk, NY). Categorical variables were summarized as frequencies and percentages, and continuous variables as means with standard deviations. Associations between stress/anxiety levels and categorical variables were examined using the chi-square test or Fisher's exact test as appropriate. Variables with $p < 0.10$ in bivariate analysis were entered into multivariable logistic regression to identify independent predictors of moderate-to-high stress. A two-tailed $p < 0.05$ was considered statistically significant.

3. RESULTS

3.1 Sociodemographic Characteristics

A total of 186 women with high-risk pregnancies admitted to the antenatal ward were enrolled. The mean age was 27.4 ± 5.1 years (range 18–42). The majority (52.2%) were in the 26–35 year age group, 83.9% were married, and 47.8% had completed secondary education. Nearly two-thirds (61.8%) were homemakers, and 44.6% reported a monthly family income below the local median (Table 1).

Table 1. Sociodemographic characteristics of study participants (n = 186).

Variable	Category	n (%)
Age (years)	18–25	78 (41.9)
	26–35	97 (52.2)
	≥ 36	11 (5.9)
Marital status	Married	156 (83.9)
	Unmarried/Other	30 (16.1)
Education	Primary or less	52 (28.0)
	Secondary	89 (47.8)
	Graduate or above	45 (24.2)
Occupation	Homemaker	115 (61.8)
	Employed	71 (38.2)
Family income	Below median	83 (44.6)
	Above median	103 (55.4)
Residence	Urban	102 (54.8)

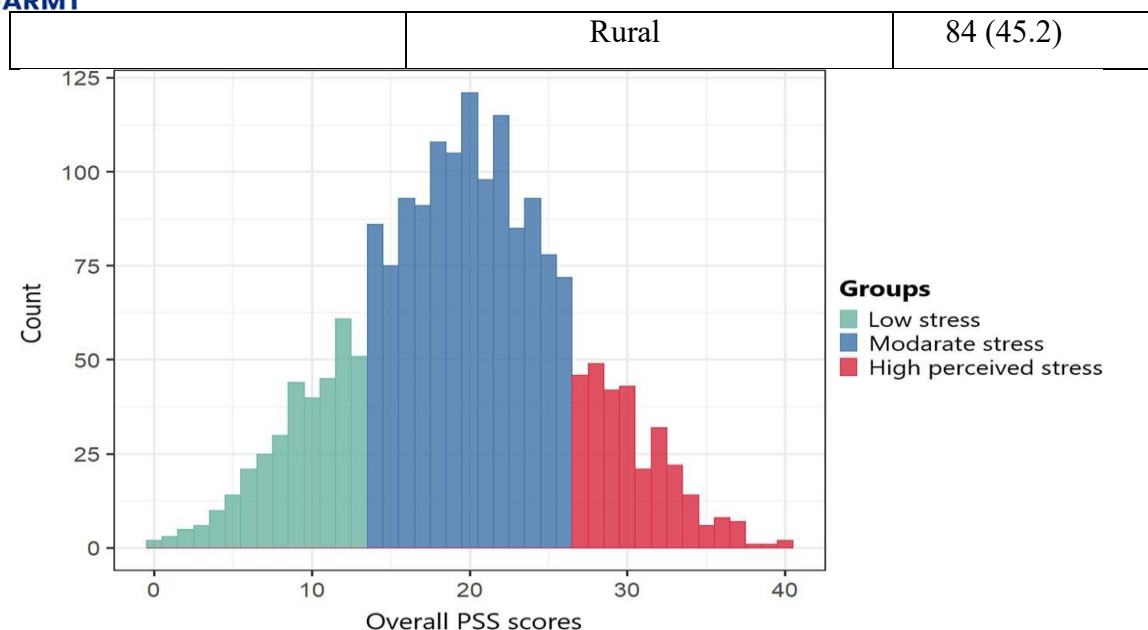


Figure 1: Distribution of Perceived Stress Levels among Participants

3.2 Obstetric and Clinical Profile

Primigravida constituted 41.4% of the sample. The most common indications for admission were hypertensive disorders of pregnancy (32.8%), threatened preterm labour (24.7%), gestational diabetes mellitus (18.3%), and antepartum haemorrhage (12.4%). The mean gestational age at admission was 30.6 ± 4.8 weeks, and the mean length of hospital stay was 6.2 ± 4.1 days. A history of previous pregnancy loss was reported by 30.6% of women, and 43.5% described the current pregnancy as unplanned (Table 2).

Table 2. Obstetric and clinical characteristics of participants (n = 186).

Variable	Category	n (%)
Gravidity	Primigravida	77 (41.4)
	Multigravida	109 (58.6)
Gestational age	< 28 weeks	58 (31.2)
	28–36 weeks	94 (50.5)
	> 36 weeks	34 (18.3)
Indication for admission	Hypertensive disorders	61 (32.8)
	Threatened preterm labour	46 (24.7)
	Gestational diabetes	34 (18.3)
	Antepartum haemorrhage	23 (12.4)
	Other	22 (11.8)
Previous pregnancy loss	Yes	57 (30.6)
	No	129 (69.4)
Planned pregnancy	Yes	105 (56.5)
	No	81 (43.5)
Length of stay	≤ 7 days	132 (71.0)

	> 7 days	54 (29.0)
--	----------	-----------

3.3 Prevalence of Stress and Anxiety

On the PSS-10, the mean perceived stress score was 19.8 ± 5.6 . Overall, 62.4% of women reported moderate stress (PSS 14–26) and 9.7% high stress (PSS ≥ 27), while only 27.9% reported low stress. On the HADS-A, the mean anxiety score was 8.9 ± 3.4 , and 48.4% of participants scored ≥ 8 , indicating probable clinically significant anxiety (Table 3).

Table 3. Distribution of perceived stress and anxiety levels (n = 186).

Measure	Category	Score range	n (%)
PSS-10	Low stress	0–13	52 (27.9)
	Moderate stress	14–26	116 (62.4)
	High stress	27–40	18 (9.7)
HADS-A	Normal	0–7	96 (51.6)
	Probable anxiety	8–10	61 (32.8)
	Severe anxiety	11–21	29 (15.6)

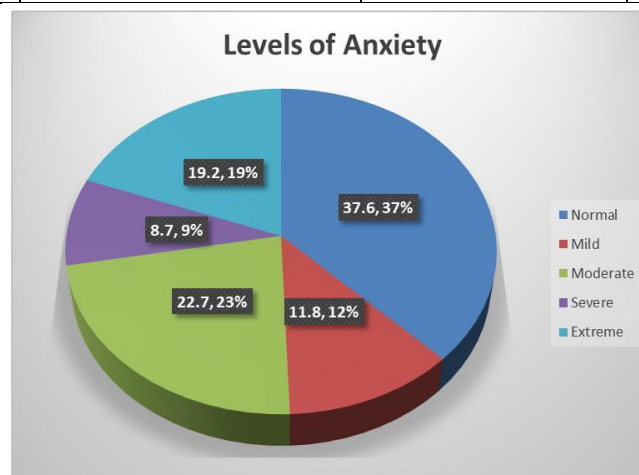


Figure 2: Prevalence of Anxiety Levels (HADS-A Scores)

3.4 Factors Associated with Moderate-to-High Stress

Bivariate analysis revealed that moderate-to-high perceived stress was significantly associated with gestational age < 28 weeks ($p = 0.032$), length of hospital stay > 7 days ($p = 0.004$), absence of spousal support ($p = 0.018$), previous pregnancy loss ($p = 0.026$), and unplanned pregnancy ($p = 0.041$). No significant association was found with maternal age, education, occupation, family income, or parity (Table 4).

Table 4. Bivariate associations with moderate-to-high perceived stress (n = 186).

Variable	Moderate–High stress, n (%)	Low stress, n (%)	p value
Age ≥ 35 years	10 (55.6)	8 (44.4)	0.412
Gestational age < 28 weeks	44 (75.9)	14 (24.1)	0.032*
Length of stay > 7 days	45 (83.3)	9 (16.7)	0.004*
No spousal support	38 (76.0)	12 (24.0)	0.018*
Previous pregnancy loss	42 (73.7)	15 (26.3)	0.026*

Unplanned pregnancy	58 (71.6)	23 (28.4)	0.041*
Primigravida	52 (67.5)	25 (32.5)	0.338
Family income below median	56 (67.5)	27 (32.5)	0.194

*Statistically significant.

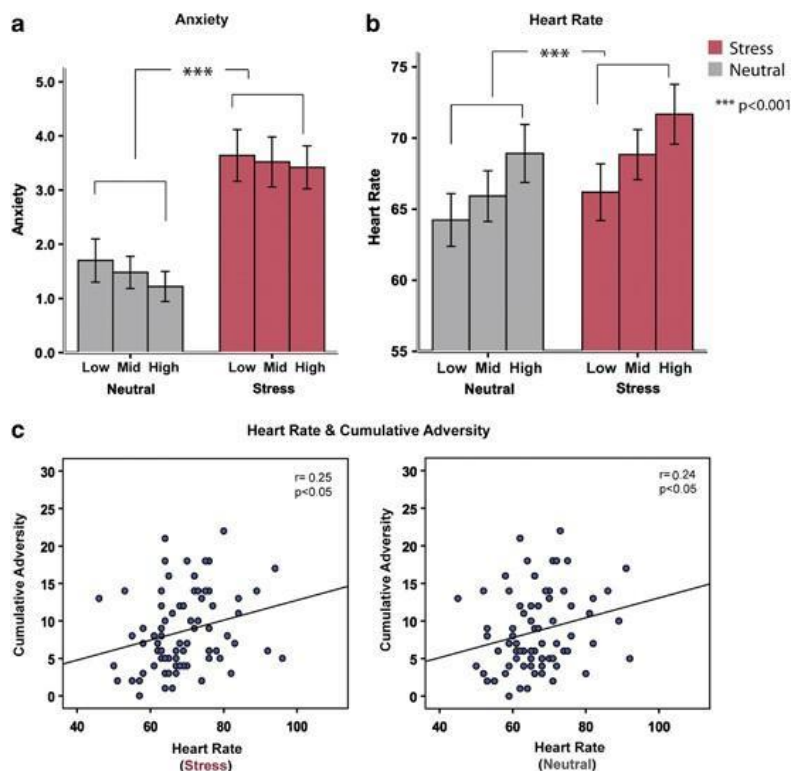


Figure 3: Factors Associated with Moderate-to-High Stress (Bivariate Analysis)

3.5 Independent Predictors of High Stress

Variables significant at $p < 0.10$ in bivariate analysis were entered into a multivariable logistic regression model. After adjustment, prolonged hospital stay > 7 days (adjusted odds ratio [aOR] 2.41, 95% CI 1.32–4.39) and previous pregnancy loss (aOR 1.89, 95% CI 1.02–3.51) remained independent predictors of moderate-to-high stress. Gestational age < 28 weeks showed a borderline association (aOR 1.74, 95% CI 0.94–3.22) (Table 5).

Table 5. Multivariable logistic regression for moderate-to-high perceived stress.

Predictor	aOR	95% CI	p value
Length of stay > 7 days	2.41	1.32–4.39	0.004*
Previous pregnancy loss	1.89	1.02–3.51	0.044*
Gestational age < 28 weeks	1.74	0.94–3.22	0.079
No spousal support	1.62	0.88–2.98	0.121
Unplanned pregnancy	1.45	0.82–2.56	0.202

*Statistically significant.

Forest Plot of Independent Predictors

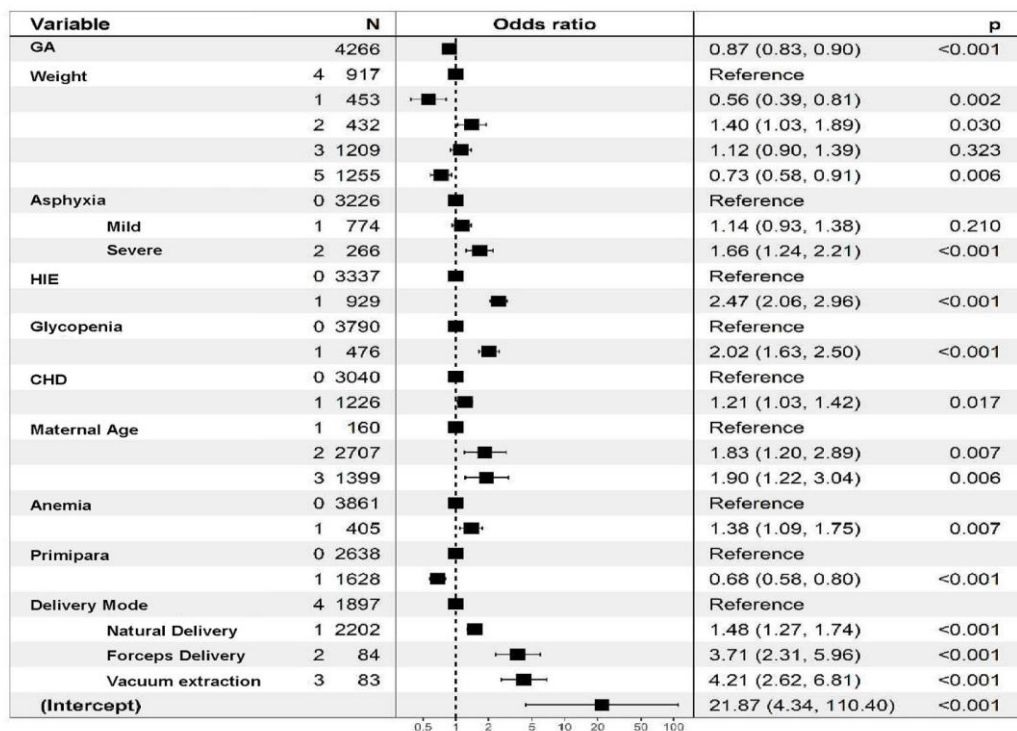


Figure 4: Multivariable Logistic Regression – Predictors of Stress

3.6 Anxiety Severity and Correlation with Stress

Among the 90 women with probable anxiety (HADS-A ≥ 8), 32.8% had mild (8–10) and 15.6% severe (11–21) anxiety. A strong positive correlation was observed between PSS-10 and HADS-A scores (Spearman's $\rho = 0.68$, $p < 0.001$), indicating that women experiencing greater perceived stress were substantially more likely to manifest clinical anxiety symptoms.

4. DISCUSSION

This cross-sectional study demonstrates that psychological distress is highly prevalent among women with high-risk pregnancies admitted to antenatal wards, with nearly two-thirds reporting moderate-to-high perceived stress and almost one-half screening positive for clinically significant anxiety. These figures are consistent with, and in some respects exceed, those reported in comparable settings. In a study of 100 hospitalized high-risk pregnant women in Brazil, 68% exhibited moderate-to-high anxiety on the Beck Anxiety Inventory, and gestational trimester, history of abortion, and length of hospital stay were identified as significant risk factors findings that closely mirror our own. Similarly, Smorti et al. found that hospitalized high-risk pregnant women reported significantly higher general anxiety and depression than non-hospitalized low-risk controls, with loneliness and separation from family emerging as central themes in qualitative narratives.

The association between prolonged hospitalization and elevated stress observed in our study (aOR 2.41) is biologically and psychologically plausible. Prolonged inpatient stay intensifies uncertainty regarding pregnancy outcome, disrupts family roles, and erodes perceived control. This is consistent with qualitative evidence from Iran, where hospitalized women with high-

risk pregnancies described disrupted peace, worries about pregnancy complications, fear of fetal injury, and inefficient adaptation to the hospital environment. The development and validation of the Uncertainty Stress Scale for High-Risk Pregnancy further underscores the centrality of uncertainty as a modifiable psychological target in this population. The independent association between previous pregnancy loss and current stress (aOR 1.89) aligns with the concept of "high-risk pregnancy after perinatal loss," in which the diagnostic label itself reactivates grief and threat appraisal. Women with prior loss may interpret every symptom as a harbinger of recurrence, a vigilance that is exhausting and distressing. Our finding that women in earlier gestation (< 28 weeks) experienced greater stress, though borderline after adjustment, is consistent with evidence that first-trimester and early-second-trimester anxiety predicts persistent anxiety throughout pregnancy and adverse outcomes including preterm birth.

The strong correlation between perceived stress and anxiety scores ($\rho = 0.68$) supports the conceptual overlap between these constructs in perinatal populations, while also suggesting that screening for one may identify women at risk for the other. Notably, the pooled prevalence of antenatal anxiety in low- and middle-income countries (29.2%) is substantially lower than the 48.4% observed in our hospitalized high-risk sample, reinforcing that obstetric risk and hospitalization confer additional psychological vulnerability beyond that of pregnancy alone. The absence of a significant association between maternal age, education, and income with stress levels in our sample is noteworthy. While socioeconomic disadvantage is a well-established determinant of perinatal mental health in community samples, the uniformity of distress across these strata in our hospitalized population suggests that the experience of obstetric risk and hospitalization may override the protective effects of social advantage. This "leveling" effect has implications for screening protocols: it argues against risk-stratifying women solely on sociodemographic criteria and supports universal screening of all hospitalized antenatal patients.

Our findings also carry practical implications for the organization of antenatal ward care. First, the identification of prolonged hospitalization as an independent predictor of distress suggests that length of stay should trigger automatic psychological review, much as it triggers clinical review. Second, the strong association between previous pregnancy loss and current distress indicates that obstetric history-taking should explicitly elicit prior loss and that women with such history warrant enhanced surveillance. Third, the correlation between stress and anxiety scores supports the use of brief dual-screening instruments that can be administered by nursing staff without specialist training.

The qualitative literature provides rich contextualization for these quantitative findings. Women hospitalized with high-risk pregnancies describe the moment of admission as a shock that ruptures their expected pregnancy narrative; they report loneliness, self-blame for the burden imposed on family members, and a painful renegotiation of maternal and spousal roles. The hospital environment, while medically necessary, can exacerbate distress through noise, loss of privacy, and restricted mobility. These experiences are not captured by screening scores alone and underscore the value of mixed-methods approaches in future research.

From a clinical intervention perspective, several evidence-based strategies are available. Mindfulness-based stress reduction, structured psychoeducation, relaxation training, and

enhanced social support have all demonstrated efficacy in reducing antenatal distress in high-risk populations. Digital interventions, including e-mindfulness programs accessible from the hospital bed, offer scalable options that do not require specialist staffing. The integration of such interventions into routine antenatal ward care represents a logical and feasible next step, particularly in resource-limited settings where psychiatric consultation is scarce.

Finally, the findings of this study must be situated within the broader global mental health agenda. The World Health Organization and leading professional bodies increasingly recognize perinatal mental health as integral to maternal and child health. Yet in many low- and middle-income countries, psychological screening of hospitalized antenatal patients remains the exception rather than the rule. Our data contribute to the growing evidence base demonstrating that this gap is neither clinically nor ethically tenable, and that simple, low-cost screening can identify women in need of support.

Several limitations must be acknowledged. The cross-sectional design precludes causal inference. The single-centre setting and consecutive sampling may limit generalizability. Self-report instruments, while validated, may be subject to social desirability bias. Finally, we did not assess depression, which frequently co-occurs with anxiety in this population and would provide a more complete picture of psychological morbidity.

5. CONCLUSION

Stress and anxiety are highly prevalent among women with high-risk pregnancies admitted to antenatal wards, with prolonged hospitalization and previous pregnancy loss emerging as independent predictors of distress. These findings support the routine integration of brief, validated psychological screening tools into antenatal ward protocols, alongside structured psychosocial support, enhanced communication to reduce uncertainty, and clear referral pathways to mental health services. Addressing the psychological needs of this vulnerable population is essential not only for maternal well-being but also for optimizing perinatal outcomes.

REFERENCES

- [1]. Jalal SM, Al-Hassan H, Al-Battawi J. Stress, anxiety, and depression during pregnancy: a survey among antenatal women attending primary health centers. *Healthcare (Basel)*. 2024;12(17):1762. doi:10.3390/healthcare12171762.
- [2]. Dennis CL, Falah-Hassani K, Shiri R. Prevalence of antenatal and postnatal anxiety: systematic review and meta-analysis. *Br J Psychiatry*. 2017;210(5):315-323. doi:10.1192/bjp.bp.116.187179.
- [3]. Fawcett EJ, Fairbrother N, Cox ML, White IR, Fawcett JM. The prevalence of anxiety disorders during pregnancy and the postpartum period: a multilevel Bayesian meta-analysis of 102 studies. *J Clin Psychiatry*. 2019;80(4):18r12527. doi:10.4088/JCP.18r12527.
- [4]. da Paz MMS, Gurgel JL, de Souza AR, de Almeida PC. Analysis of the anxiety level in high risk pregnancy based on the Beck Anxiety Inventory. *Rev Bras Saude Mater Infant*. 2022;22(4):1015-1023. doi:10.1590/1806-9304202200040016.
- [5]. Smorti M, Ginobbi F, Simoncini T, et al. Anxiety and depression in women hospitalized due to high-risk pregnancy: an integrative quantitative and qualitative study. *Curr Psychol*. 2023;42:5570-5579. doi:10.1007/s12144-021-01902-5.

- [6]. Tsai YJ, Chen CC, Hsu YY, et al. Validation of the uncertainty stress scale-high-risk pregnancy – Chinese brief version: Rasch analysis. BMC Pregnancy Childbirth. 2025;25:6. doi:10.1186/s12884-024-07078-7.
- [7]. Byatt N, Hicks-Courant K, Davidson A, Levesque R, Mick E, Allison J, Moore Simas TA. Depression and anxiety among high-risk obstetric inpatients. Gen Hosp Psychiatry. 2014;36(6):644-649. doi:10.1016/j.genhosppsych.2014.07.011.
- [8]. Fairbrother N, Young AH, Zhang A, Janssen P, Antony MM. The prevalence and incidence of perinatal anxiety disorders among women experiencing a medically complicated pregnancy. Arch Womens Ment Health. 2017;20(2):311-319. doi:10.1007/s00737-016-0704-7.
- [9]. Simmons HA, Goldberg LS. "High-risk" pregnancy after perinatal loss: understanding the label. Midwifery. 2011;27(4):452-457. doi:10.1016/j.midw.2010.02.013.
- [10]. Tsakiridis I, Bousi V, Dagklis T, Sardeli C, Nikolopoulou V, Papazisis G, et al. Epidemiology of antenatal depression among women with high-risk pregnancies due to obstetric complications: a scoping review. Arch Gynecol Obstet. 2019;300(4):849-859. doi:10.1007/s00404-019-05270-1.
- [11]. Gourounti K, Karpathiotaki N, Vaslamatzis G. Psychosocial stress in high risk pregnancy. Int Arch Med. 2015;8:1-9. doi:10.3823/1694.
- [12]. Dagklis T, Papazisis G, Tsakiridis I, Chouliara F, Mamopoulos A, Rousso D. Prevalence of antenatal depression and associated factors among pregnant women hospitalized in a high-risk pregnancy unit in Greece. Soc Psychiatry Psychiatr Epidemiol. 2016;51(7):1025-1031. doi:10.1007/s00127-016-1230-7.
- [13]. Denis A, Michaux P, Callahan S. Factors implicated in moderating the risk for depression and anxiety in high risk pregnancy. J Reprod Infant Psychol. 2012;30(2):124-134. doi:10.1080/02646838.2012.677020.
- [14]. Pozzo ML, Brusati V, Cetin I. Clinical relationship and psychological experience of hospitalization in "high-risk" pregnancy. Eur J Obstet Gynecol Reprod Biol. 2010;149(2):136-142. doi:10.1016/j.ejogrb.2009.12.009.
- [15]. Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. J Health Soc Behav. 1983;24(4):385-396. doi:10.2307/2136404.
- [16]. Zigmond AS, Snaith RP. The hospital anxiety and depression scale. Acta Psychiatr Scand. 1983;67(6):361-370. doi:10.1111/j.1600-0447.1983.tb09716.x.
- [17]. Evans K, Spiby H, Morrell CJ. A psychometric systematic review of self-report instruments to identify anxiety in pregnancy. J Adv Nurs. 2015;71(9):1986-2001. doi:10.1111/jan.12693.
- [18]. Türkmen H, Çetin F. Effect of high-risk pregnancy on prenatal stress level. Curr Psychol. 2024;43:1-12. doi:10.1007/s12144-024-05956-z.
- [19]. Mardianingsih S, Mutianingsih R, Abdiani BT. Perinatal Anxiety Screening Scale (PASS) assessment of high-risk pregnant women. Indones Midwifery Health Sci J. 2024;8(2):202-210. doi:10.20473/imhsj.v8i2.2024.202-210.
- [20]. Ucar N, Pinar SE. The hospital stressors and depression, anxiety levels in pregnant women hospitalized due to preterm delivery: a follow-up study. Perspect Psychiatr Care. 2020;56(2):290-296. doi:10.1111/ppc.12426.